STRUCTURE 354

This structure is a reinforced concrete, gated spillway, with two vertical lift gates, located in L-D9, the perimeter dike of Lake Okeechobee, at the north end of the Miami Canal at Lake Harbor. It is a replacement for Hurricane Gate Structure (HGS)-3.

PURPOSE

This structure permits releases to be made from Lake Okeechobee to meet water requirements in the Miami Canal service area to the Lower East Area and to the Everglades National Park. It will permit flood flows to be discharged from the Agricultural Area into Lake Okeechobee when the lake level is low. It will also prevent hurricane tides from entering the Miami Canal. It will be used, under certain conditions, to make regulatory or water supply releases from Lake Okeechobee into Water Conservation Area 3 or the Holey Land.

OPERATION

The gates are normally closed. They are opened for three purposes:

A) To meet agricultural requirements in the area served by the Miami Canal between Lake Harbor and S-8, or to meet requirements in Coastal Dade County or in the Everglades National Park. These conditions generally occur in the dry season between mid-October and mid-May. The first condition occurs under a dry season stage below 11.0 feet between S-354 and S-8, along with other factors. The second condition occurs under a dry season stage below optimum in Coastal Dade County when water is not available in Water Conservation Area 3. The third requirement occurs under a condition when the legally required releases to the Everglades National Park cannot be met by releases from Water Conservation Area 3.

B) To discharge flood flows from the Agricultural Area between S-354 and S-8 when Lake Okeechobee is low (generally below 11.0 feet). Such occasions are very rare but could occur in the late spring.

C) To make regulatory discharges from Lake Okeechobee when conditions in the EAA will permit, and when WCA-3 is below schedule.

D) To release water from Lake Okeechobee into the Holey Land as required.

FLOOD DISCHARGE CHARACTERISTICS

	Design	Standard Project Flood
Discharge Rate	1450 cfs	2000 cfs
Headwater Elevation	10.5 feet	24.8 feet
Tailwater Elevation	10.0 feet	13.2
Maximum Hurricane Tide Elev.	33.6 feet	
Wave run-up (above hurricane tide)	7.4 feet	

DESCRIPTION OF STRUCTURE

Weir Crest

Net Length 46.0 feet

Elevation 3.2 feet

Service Bridge Elevation 34.5 feet

Water Level which will by-pass structure 34.0 feet

Gates

Number 2

Width X Height (ft) 23.0 X 8.3

Bottom Elevation of gates, full open: 11.5 feet

Top Elevation of gates, full closed: 11.5 feet

Breastwall Elevation (feet) 11.5 to 45.0

Control Remote Computer Control

Lifting Mechanism

Normal power source Commercial Electricity

Emergency power source LP Gas engine driven by generator in Control House

Type Hoist a horizontal hydraulic cylinder connected to a two-part sheave block assembly over which the cables run

ACCESS: Structure located adjacent to U.S. 80 at Lake Harbor.

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level	On-site, upstream and downstream analog recorders and remote digital recorders at S-3
Gate Position Recorder	Remote digital recorders
Rain Gauge	Remote digital recorder at S-3
Discharge	U.S.G.S. flow instruments in Miami Canal